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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,369	03/25/2004	Norimitsu Sako	119266	4741

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EXAMINER	
NADKARNI, SARVESH J	
ART UNIT	**PAPER NUMBER**
2609	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/808,369	SAKO ET AL.	
	Examiner	Art Unit	
	Sarvesh J. Nadkarni	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 3/25/2004 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the application filed on March 25, 2004, Application Number: 10/808,369 (hereinafter referred to as "application"). This application was published on September 30, 2004, Publication Number: US 2004/0189581 A1. Any page and/or line number references made in this action relates to the originally filed application, not the publication.

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a certified English translation of the foreign application must be submitted in reply to this action. 37 CFR 41.154(b) and 41.202(e). Failure to provide a certified translation may result in no benefit being accorded for the non-English application.

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the selection time periods being a smaller number than the column vectors in claim 2 must be shown or the feature canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The abstract of the disclosure is objected to because of the following phrase: "The liquid crystal panel is driven the method." Correction is required. See MPEP § 608.01(b).

5. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use. Section (b) claiming priority to a foreign application is missing. Appropriate correction is required.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. **Claim 1** is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claim 1** of copending Application No. 11/259,062, Publication Number: 2006/0033692, Publication Date: February 16, 2006 (hereinafter referred to as "said copending application").

8. With regard to **claim 1**, although the conflicting claims are not identical, they are not patentably distinct from each other because "rotated column vectors" as claimed by the current application constitutes a "plurality of orthogonal functions" as stated in the copending application. Many rotated column vectors make up the plurality of the orthogonal functions. Furthermore, "a plurality of selection equivalent orthogonal functions" as stated in the presently examined application constitutes "an orthogonal function set" as stated in the copending

application. Finally, "one block" as described in the presently examined application constitutes a "divided selection time period" in said copending application.

9. **Claim 2 and 3** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claim 2** of said copending application. With regard to **claim 2 and as dependent on claim 1,** although the conflicting claims are not identical, they are not patentably distinct from each other because "column vectors" of the orthogonal function of the presently examined application are the same as "row vectors" of **claim 2** the copending application. The point of reference of the orthogonal function is not patentably distinct.

10. With regard to **claim 3 and as dependent on claim 1, claim 3** is similarly analyzed as **claim 2** of this application.

11. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. **Claim 1** is rejected under **35 U.S.C. 103(a)** as being unpatentable over **Kuijk**, United States Patent Application Publication, Pub. No.: US 2001/0020926 A1, Pub. Date: Sep. 13, 2001 (hereinafter referred to as "**Kuijk**") and further in view of **Kudo et al.**, United States Patent,

Patent Number: 5,1861,863, Date of Patent: Jan. 19, 1999 (hereinafter referred to as "Kudo '863").

14. With regard to **claim 1, Kuijk** clearly teaches

A multiline addressing drive method (page 1, paragraph [0002], "multiple row addressing") **for passive matrix liquid crystal** (page 1, paragraph [0002], "Passive-matrix displays") **by using an orthogonal function** (page 1, paragraph [0005], "at least two type of orthogonal functions") **to simultaneously drive a plurality of rows** (see page 1, paragraph [0016] continued on page 2 "p rows simultaneously driven") **of the passive matrix liquid crystal as one block of rows,** (see page 1, paragraph [0016] continued on page 2 "p rows simultaneously driven" (emphasis added)) **comprising steps of:**

allocating rotated column vectors (see page 1, paragraph [0016] "information vectors per elementary unit of time") **of**

a plurality of selection-equivalent orthogonal functions (see page 1, paragraph [0005] "signals are obtained from at least two types of orthogonal functions") **obtained by**

rotating row vectors of one orthogonal function (see page 2 paragraph [0018] "This set is obtained by shifting the negative pulse each time by one position in the second and subsequent functions"; additionally, see FIG. 4a and FIG. 4b) **which is used as**

a selection pattern for simultaneously selected row electrodes (see page 2 paragraph [0027] and as continued on page 3, "pattern b and pattern a are interwoven").

15. However, **Kuijk** fails to teach **a plurality of divided selection time periods obtained by dividing a selection time period of one of said simultaneously selected row electrodes, respectively; and allowing the column vectors of every said selection-equivalent orthogonal function to loop back in time series with respect to said one block.**

16. However, **Kudo '863** clearly discloses

a plurality of divided selection time periods (see Sheet 1 of 59, FIG. 1, and further described in column 13, lines 5-10) **obtained by**

dividing a selection time period of one of said simultaneously selected row electrodes, respectively; (see Sheet 1 of 59, FIG. 1, and further described in column 13, lines 5-10)

and allowing the column vectors of every said selection-equivalent orthogonal function to loop back in time series with respect to said one block. (see Sheet 22 of 59, FIG. 24, further described in column 20, lines 10-12; the application of the orthogonal function is "repeated sequentially"; furthermore, an orthogonal function is applied in a pattern design that repeats backwardly within a block if viewed from the third time period, t, of the Y1-Y4 rows as shifted back to the 2t time period of the Y5-Y8 row as shown in FIG. 24., and as so forth repeated with other subsequent rows within the block.)

17. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate the multiple row addressing method of **Kiujk** into the method of dividing the time sections along with the application of the orthogonal functions of **Kudo** because **Kudo's** disclosure of these elements is clearly in the same

field of endeavor as **Kiujk,** and furthermore, **Kudo,** as stated on columns 4-5, "prevents occurrences of possible image quality degradation".

18. With regard to **claim 2 as dependent on claim 1, Kudo** discloses

said divided selection time periods are smaller in number than said column vectors of said orthogonal function. (see page 2, paragraph [0024], "at least two types of orthogonal functions with four elementary units of time")

19. With regard to **claim 3 as dependent on claim 1, Kudo** discloses

said plurality of selection-equivalent orthogonal functions are equal in number to or smaller in number than said divided selection time periods. (similarly analyzed as claim 2)

20. With regard to **claim 4, Kuijk** clearly teaches

a multiline addressing drive method (page 1, paragraph [0002], "multiple row addressing") **for passive matrix liquid crystal** (page 1, paragraph [0002], "Passive-matrix displays") **by using an orthogonal function** (page 1, paragraph [0005], "at least two type of orthogonal functions") **to simultaneously drive a plurality of rows** (see page 1, paragraph [0016] continued on page 2 "p rows simultaneously driven") **of the passive matrix liquid crystal as one block of rows,** (see page 1, paragraph [0016] continued on page 2 "p rows simultaneously driven" (emphasis added)).

21. However, **Kiujk** does not teach the remainder of **claim 4.**

22. **Kudo** teaches

scanning column vectors of said orthogonal function (see column 3, lines 42-46, "selection scanning voltage corresponding to the orthogonal function") **in each of**

a plurality of divided selection time periods (see column 5, lines 20-26)

obtained by

dividing a selection time period of one of simultaneously selected row electrodes to select said column vectors; (see column 5, lines 20-26)

and rotating said column vectors bitwise in accordance with said divided selection time periods. (see column 5, line 15-20)

23. With regard to **claim 5 as dependent on claim 4,** it is similarly analyzed as **claim 2** and rejected under the same rationale.

24. With regard to **claim 6,** it is similarly analyzed as **claim 1** and rejected under the same rationale.

25. With regard to **claim 7,** it is similarly analyzed as **claim 4** and rejected under the same rationale.

26. With regard to **claim 8,** it is similarly analyzed as **claim 1** and rejected under the same rationale.

27. With regard to **claim 9,** it is similarly analyzed as **claim 4** and rejected under the same rationale.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarvesh J. Nadkarni whose telephone number is 571-270-1541. The examiner can normally be reached on 8:00-5:00 M-Th EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-273-1550. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sarvesh J. Nadkarni

AMARE MENGISTU
SUPERVISORY PATENT EXAMINER